

TWO NEW SPECIES OF *Phorbella* FROM NORTH AMERICA  
(DIPTERA: SCIOMYZIDAE)

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*Abstract.*—Two new species, *Phorbella aloea* and *P. inflexa*, are described from western North America. Illustrations, photos, and a map of the geographic distribution for the new species are given.

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*Phorbella* includes more species than any other genus of Sciomyzidae. In North America north of Mexico, *Phorbella* now includes 39 species, including the two new species described in this paper. Six of these species are known to be holarctic. The genus is known from all zoogeographic regions of the world.

*Phorbella*, by comparison to other members of the family Sciomyzidae, are rather small, drab, plain-looking flies. They are not nearly as striking as species of *Limnia*, *Sepedon*, and *Tetanocera*. As a result they are not as avidly collected nor as well represented in collections, especially those species that closely resemble each other. Although there may be considerable variation among some groups within the genus, many can only be identified by careful dissection of the male (rarely female) terminalia. The extensive biological work of Bratt et al. (1969) has greatly increased the understanding of *Phorbella*.

Several years prior to my discovery of the following new species, George C. Steyskal recognized them as new and proposed the species names used herein. I here express my thanks to him for allowing me to describe these species.

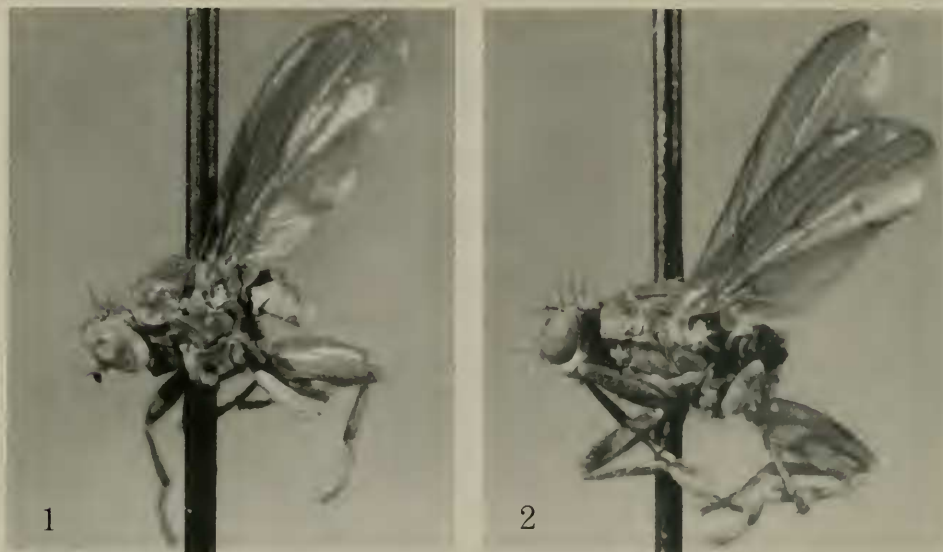
***Phorbella aloea* Orth, NEW SPECIES**

Figs. 1, 3, 4, 7

Holotype ♂.—Height of head  $\frac{2}{3}$  width. Medifacies yellowish, pruinose; facial grooves subshiny; parafacies and cheeks pruinose, yellowish to whitish respectively. Frons testaceous. Midfrontal stripe extending less than  $\frac{1}{2}$  distance from anterior ocellus to anterior margin of frons. Ocellar triangle and orbital plates tannish grey, tomentose. Orbital plates tapered anteriorly, extending beyond midfrontal stripe. Orbito-antennal spot lacking; narrow tomentose strip along upper orbital margin. Two pairs of fronto-orbital bristles, anterior pair  $\frac{2}{3}$  as long as posterior pair; ocellars, postocellars, and inner and outer verticals well developed. Occiput tannish grey tomentose. Short black setae on lower  $\frac{2}{3}$  of cheeks and parafacies, on anterior  $\frac{1}{2}$  of frons, between ocellar and postocellar bristles, along outer parts of orbital plates, and in midcervical patch. Lateral occipital margins with somewhat stronger setae and bristles. Antenna testaceous.

Thorax dorsally grey tomentose with brownish longitudinal stripes.

Pleura tannish grey tomentose. Mesopleuron bare, with upper surface more



Figs. 1, 2. 1, *Pherbellia aloea*, holotype male. 2, *P. inflexa*, holotype male. Abdominal segments excised and retained in genitalia vial on pins beneath specimens. Photos by M. E. Badgley, University of California, Riverside.

brownish. Pteropleuron with cluster of 10 sinistral and 11 dextral bristles of nearly equal size situated mid-anteriorly. Sternopleuron with very fine short setae over central surface, slightly stronger setae along dorsal margin, and well-developed setae or bristles ventrally. Prosternum bare.

Coxae yellowish white tomentose. Forefemur and tibia brownish, infumated; tarsal segments tawny. Mid- and hindlegs tawny, lightly infumated.

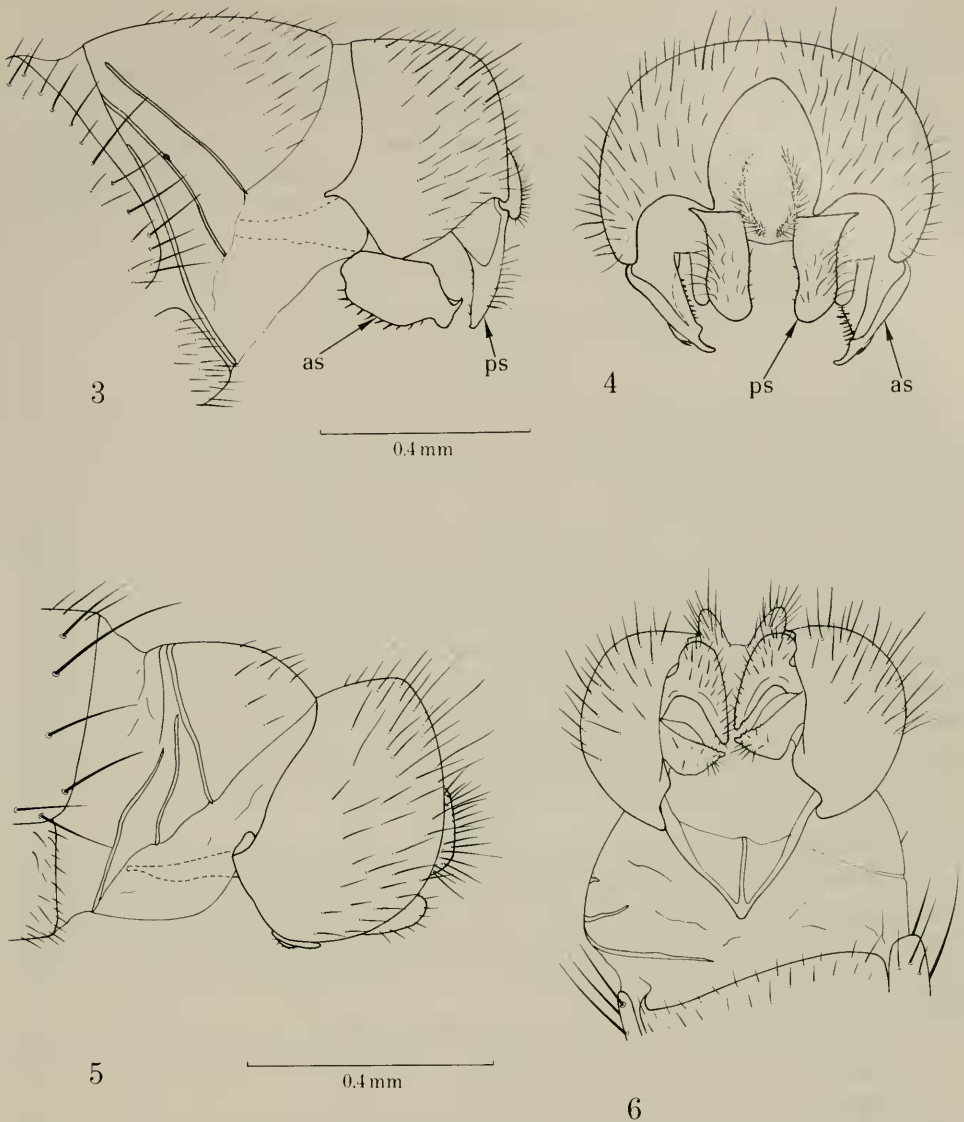
Wing length 4.1 mm. Membrane greyish yellow, hyaline; costal margin and wing veins brownish yellow, area around crossveins not clouded. No stump veins; anterior crossvein slightly oblique, first vein distinctly surpassing level of anterior crossvein; anal vein reaching wing margin. Halter, squama, and squamal ciliae yellowish.

Abdominal segments tawny, slightly infuscated dorsally; andrium testaceous; terminalia as in Figs. 3 and 4.

Female.—Not known.

Holotype.—♂, USA, Washington, Mt. Rainier, Berkeley Park, 23 August 1934, A. L. Melander. Deposited in the National Museum of Natural History, Washington, D.C.

Paratypes.—CANADA. *Alberta*: Banff National Park, 9 July 1955, G. E. Shewell (3 ♂); Banff National Park, Mt. Norquay, elevation 6600 feet, 25 May 1960, J. G. Chillcott (1 ♂). *British Columbia*: Mt. Thornhill nr. Terrace, 21 June 1960, J. G. Chillcott (1 ♂, 3 ♂); same locality, 14 July 1960, 26 July 1960, 8 August 1960, C. H. Mann (1 ♂, 2 ♂, 1 ♂); same locality, 21 June 1960, G. E. Shewell (1 ♂); same locality, 14 July 1960, B. Heming (1 ♂). *Northwest Territories*: Bathurst Inlet, Ekalulia Island, 12 August 1966, G. E. Shewell (1 ♂); Bathurst Inlet, Baychimo Harbor, 2 August 1966, G. E. Shewell (1 ♂). *Yukon*: Otter Lake, 130° 25' 62" 30', elevation 4000 feet, 22 July 1960, 29 July 1960, E. W. Rockburne (1 ♂, 1 ♂); same



Figs. 3-6. 3, 4, *Phorbellia aloea*, paratype male, 14 mi E of Glacier R. S., Whatcom Co., Washington, 8-11 August 1974, W. J. Turner. 3, Terminalia, sinistral view. 4, Terminalia, posterior view; as = anterior surstylus; ps = posterior surstylus. 5, 6, *P. inflexa*, paratype male, 4 mi S of Anatone, Asotin Co., Washington, 12-13 June 1974, W. J. Turner. 5, Terminalia, sinistral view. 6, Terminalia, ventral view.

locality, 16 July 1960, J. E. H. Martin (1 ♂). USA. *Alaska*: Anchorage, July 1960, M. R. Wheeler (1 ♂). *Idaho*: Moscow Mt., 4 June 1919, A. L. Melander (1 ♂). *Washington*: Chehalis, 15 March 1911, A. L. Melander (1 ♂); Everett, 19 June 1920, A. L. Melander (1 ♂); Whatcom Co., Silver Fir Campground, 14 mi E of Glacier R. S., North Fork of Nooksack River, elevation 2000 feet, 8-11 August 1974, W. J. Turner (1 ♂). Deposited in Agriculture Canada, Cornell University,

University of California at Riverside, and the National Museum of Natural History.

Variation.—Bristles in the cluster on the pteropleuron vary in number from 6 to 13. Wing length varies from 3.2 to 4.1 mm.

Etymology.—The species name *aloea* was supplied by G. C. Steyskal *in litt.* He stated, “. . . *aloea* is Latin in form but will not be found in any dictionary. I conceived it as an adjective formed from *aloe*, with reference to denticles on the surstyli resembling those on the leaves of *Aloe* species.”

Diagnosis.—See diagnosis under *Pherbellia inflexa*.

***Pherbellia inflexa* Orth, NEW SPECIES**

Figs. 2, 5–7

Holotype ♂.—Height of head  $\frac{2}{3}$  width. Medifacies whitish, pruinose; facial grooves subshiny; parafacies and cheeks tomentose, yellowish to whitish respectively. Frons testaceous, lighter anteriorly. Midfrontal stripe extending approximately  $\frac{1}{2}$  distance from anterior ocellus to anterior margin of frons. Ocellar triangle and orbital plates tannish grey tomentose. Orbital plates tapered anteriorly, extending beyond midfrontal stripe. Orbito-antennal spot lacking; narrow strip of whitish tomentum along upper orbital margin. Two pairs of fronto-orbital bristles, anterior pair  $\frac{2}{3}$  as long as posterior pair; ocellars, postocellars, and inner and outer verticals well developed. Occiput tannish grey tomentose. Short black setae on lower  $\frac{2}{3}$  of cheeks and parafacies, on anterior  $\frac{1}{2}$  of frons, between ocellar and postocellar bristles, along outer parts of orbital plates, and in midcervical patch. Lateral occipital margins with stronger setae and bristles. Antenna testaceous, segment 3 elongate oval. Arista blackish, without hairs. Palpi yellowish, labium and labella testaceous.

Thorax dorsally grey tomentose, with brownish longitudinal stripes.

Pleura tannish grey tomentose. Mesopleuron bare, with upper surface brownish. Pteropleuron with cluster of 6 sinistral and 7 dextral bristles of nearly equal size, situated mid-anteriorly. Sternopleuron with fine short setae or bristles over central surface, stronger bristles along dorsal margin and well-developed bristles ventrally. Prosternum bare.

Coxae yellowish white tomentose. Forefemur and tibia brownish, infumated; tarsal segments tawny, first segment lightest. Mid- and hindlegs tawny, lightly infumated.

Wing length 3.9 mm. Membrane greyish yellow, hyaline; costal margin and wing veins brownish yellow, area around crossveins lightly clouded. No stump veins; anterior crossvein slightly oblique, first vein distinctly surpassing level of anterior crossvein; anal vein reaching wing margin. Halter, squama, and squamal ciliae yellowish.

Abdominal segments brownish, infuscated dorsally; andrium testaceous; terminalia as in Figs. 5 and 6.

Female.—Not known.

Holotype.—♂, Canada, British Columbia, Robson, 6 April 1947, H. R. Foxlee. Deposited in the National Museum of Natural History.

Paratypes.—All USA. *California*: Yosemite, elevation 3880–4000 feet, 19 May 1938, K. D. Snyder (1 ♂). *Colorado*: Nederland, Science Lodge, elevation 9500 feet, 3 July 1961, C. H. Mann (1 ♂). *Idaho*: Moscow Mt., 28 August 1916, 26

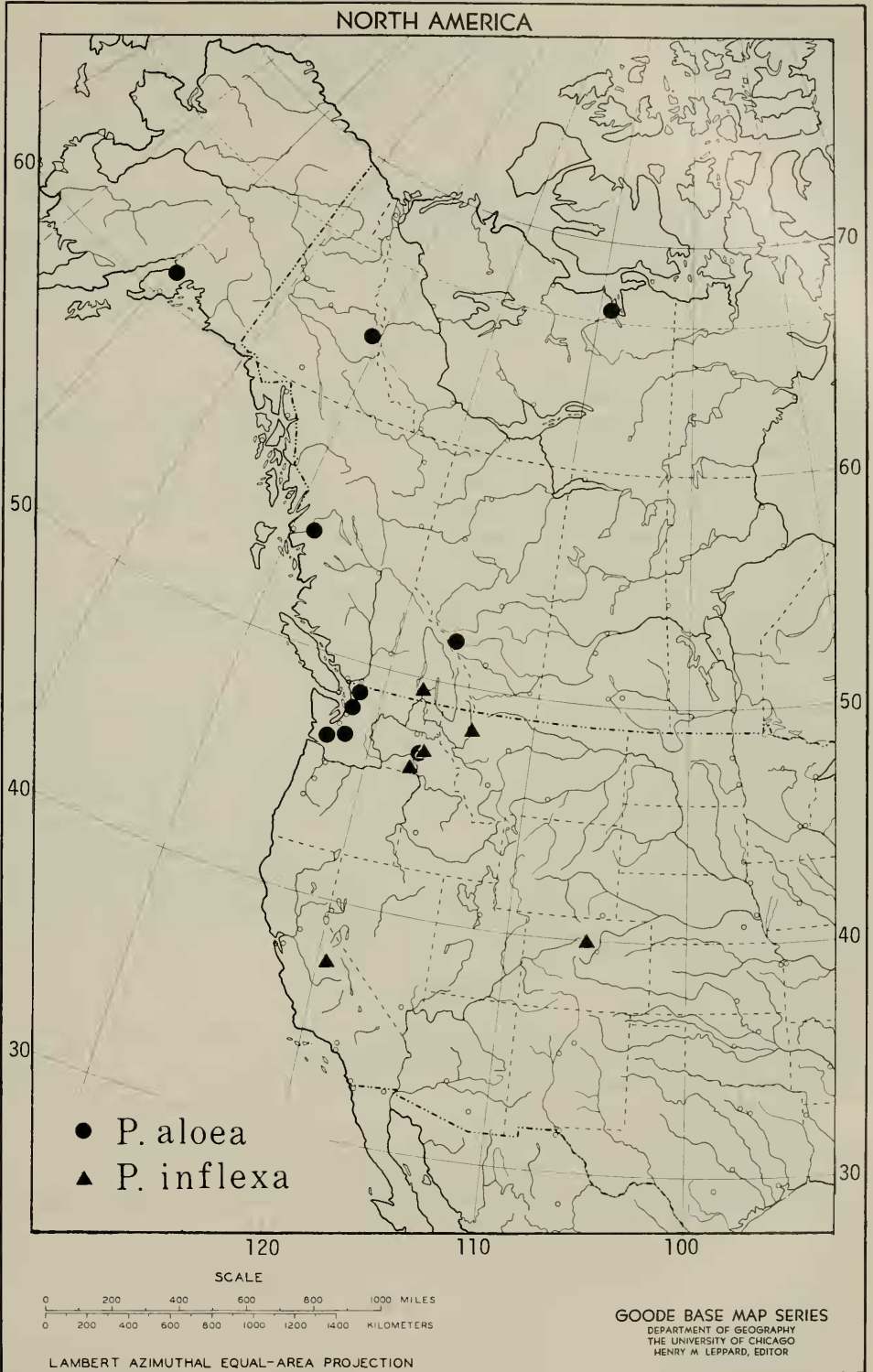


Fig. 7. Collection sites for *Pherbellia aloea* and *P. inflexa*.



June 1920, A. L. Melander (1 ♂, 1 ♀). *Montana*: 15 mi S of Big Fork, 17 August 1965, B. A. Foote (1 ♂). *Washington*: Asotin Co., 4 mi S of Anatone, elevation 3500–4000 feet, 12–13 June 1974, W. J. Turner (1 ♂); same locality, 30 April 1977, R. S. Zack (1 ♂). Deposited in Agriculture Canada, Cornell University, University of California at Riverside, and the National Museum of Natural History.

Variation.—Bristles in the cluster on the pteropleuron vary in number from 5 to 7. Wing length varies from 3.3 to 4.4 mm.

Etymology.—The species name *inflexa* was supplied by G. C. Steyskal *in litt.* He stated, “. . . *inflexa* is the feminine form of the Latin past participle *inflexus* and means ‘bent inward,’ with reference to the position of the surstyli.”

Diagnosis.—The external morphology of *Pherbellia aloea* and *P. inflexa* is very similar. Only the following two external characters appear to separate the two species: 1) The wing membrane bordering the anterior and posterior crossveins of *P. inflexa* appears clouded while in *P. aloea* it is clear, and 2) the setae and bristles on the mesopleura and pteropleura of *P. inflexa* are heavier than those of *P. aloea*. Coloration of the two species is very similar. Color variation within and between these two species prevents valid separation by such characters. However, dissection of the male terminalia reveals that *P. aloea* and *P. inflexa* (Figs. 3–6) are distinct. Further, the terminalia of the two species do not resemble those of any other species of *Pherbellia*. For comparison of terminalia with other species of *Pherbellia* see: Steyskal (1961), Rozkošný (1966), Orth et al. (1980).

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